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Section I (Listing of the Claims)

The following sets forth a complete listing of the claims, claims 1-34, of the application as currently pending.

1. **(Withdrawn)** A method of controlling copper electrochemical deposition in an electrochemical deposition system in which a wafer is contacted with an electrochemical deposition medium including at least one organic additive, wherein the electrochemical deposition medium has a plating anode in contact therewith to effect plating of copper on the wafer, and the electrochemical deposition is characterizable by at least one dependent variable correlative of efficacy of the copper electrochemical deposition, said method comprising:

selecting at least one dependent variable correlative of efficacy of the copper electrochemical deposition;

performing a regression analysis or multivariate calibration modeling of the copper electrochemical deposition utilizing a wafer-based independent variable to generate a dependent variable equation for each selected dependent variable correlative of efficacy of the copper electrochemical deposition;

solving the dependent variable equation for each selected dependent variable correlative of efficacy of the copper electrochemical deposition, by regression analysis, to yield a solution value for each selected dependent variable; and

modulating the copper electrochemical deposition in response to the solution value for each selected dependent variable.

2. **(Withdrawn)** The method of claim 1, wherein the wafer-based independent variable is selected from the group consisting of plating voltage output, plating current, electrode size, and wafer preconditioning pulse.

3. **(Withdrawn)** The method of claim 1, wherein the electrochemical deposition medium includes a copper salt and an inorganic acid.

4. **(Withdrawn)** The method of claim 3, wherein the inorganic acid comprises sulfuric acid.

5. **(Withdrawn)** The method of claim 3, wherein the copper salt comprises copper sulfate.

6. **(Withdrawn)** The method of claim 1, wherein the at least one organic additive includes an organic additive selected from the group consisting of organic accelerators, organic suppressors and organic levelers.

7. **(Withdrawn)** The method of claim 6, wherein the at least one organic additive includes an organic accelerator, and organic suppressor and an organic leveler.

8. **(Withdrawn)** The method of claim 1, wherein the electrochemical deposition medium further includes a chloride source.

9. **(Withdrawn)** The method of claim 1, wherein the selected at least one dependent variable includes concentration of at least one component of the electrochemical deposition medium.

10. **(Withdrawn)** The method of claim 9, wherein the selected at least one dependent variable includes concentration of an organic additive of the electrochemical deposition medium.

11. **(Withdrawn)** The method of claim 9, wherein the selected at least one dependent variable includes concentration of each organic additive in the electrochemical deposition medium.

12. **(Withdrawn)** The method of claim 9, wherein the selected at least one dependent variable includes concentration of at least one organic additive in the electrochemical deposition medium.

13. **(Withdrawn)** The method of claim 7, wherein the selected at least one dependent variable includes concentration of each organic accelerator, and organic suppressor and an organic leveler.

14. **(Previously Presented)** Apparatus for controlling copper electrochemical deposition in an electrochemical deposition system in which a wafer is contacted with an electrochemical deposition medium including at least one organic additive, wherein the electrochemical deposition medium has a plating anode in contact therewith to effect plating of copper on the wafer, and the electrochemical deposition is characterizable by at least one dependent variable correlative of efficacy of the copper electrochemical deposition [illegible]